

*United States Marine Corps  
Command and Staff College  
Marine Corps University  
2076 South Street  
Marine Corps Combat Development Command  
Quantico, Virginia 22134-5068*

# ***MASTER OF MILITARY STUDIES***

## **AIR BASE DEFENSE IN THE 21<sup>ST</sup> CENTURY: USAF Security Forces Protecting the Look of the Joint Vision**

**SUBMITTED IN PARTIAL FULFILLMENT  
OF THE REQUIREMENTS FOR THE DEGREE OF  
MASTER OF MILITARY STUDIES**

**Michael P. Buonaugurio  
Major, U.S. Air Force  
Conference Group 5  
AY 00-01**

**Mentor: Dr. Mark H. Jacobsen**

**Approved: \_\_\_\_\_**

**Date: \_\_\_\_\_**

**Mentor: Col. Ron R. McFarland**

| Report Documentation Page  |  |  |
|--|--|--|
| <b>Report Date</b><br>2002   | <b>Report Type</b><br>N/A                          | <b>Dates Covered (from... to)</b><br>- |
| <b>Title and Subtitle</b><br>Air Base Defense in the 21st Century: USAF Security Forces Protecting the Look of the Joint Vision  | <b>Contract Number</b>                             |  |
|  | <b>Grant Number</b>                                |  |
|  | <b>Program Element Number</b>                      |  |
| <b>Author(s)</b>   | <b>Project Number</b>                              |  |
|  | <b>Task Number</b>                                 |  |
|  | <b>Work Unit Number</b>                            |  |
| <b>Performing Organization Name(s) and Address(es)</b><br>Joint Military Operations Department Naval War College 686 Cushing Road Newport, RI 02841-1207   | <b>Performing Organization Report Number</b>       |  |
| <b>Sponsoring/Monitoring Agency Name(s) and Address(es)</b>  | <b>Sponsor/Monitor's Acronym(s)</b>                |  |
|  | <b>Sponsor/Monitor's Report Number(s)</b>          |  |
| <b>Distribution/Availability Statement</b><br>Approved for public release, distribution unlimited  |  |  |
| <b>Supplementary Notes</b>   |  |  |
| <b>Abstract</b><br>The United States Air Force Security forces are tasked with protecting Air Base Operations in support of the Joint Force. Technology diffusion has extended the Lethal Battlespace throughout the restricted to a defined boundary within the commander's area of operations. For deployed Military Commanders Mission accomplishment is increasingly predicated upon successful force protection. Asymmetrical Threat Strategies that result in American Casualties have proven successful in displacing U.S. presence, as well as degrading regional influence, overcoming these access-challenges is a key element in the full dimensional protection strategy outlined in the Joint Vision. This study was conducted to devise an evolutionary approach to Align Security Forces with operational concepts in the Joint Vision. |  |  |
| <b>Subject Terms</b>   |  |  |
| <b>Report Classification</b><br>unclassified   | <b>Classification of this page</b><br>unclassified |  |
| <b>Classification of Abstract</b><br>unclassified  | <b>Limitation of Abstract</b><br>UU                |  |

|                        |
|------------------------|
| <b>Number of Pages</b> |
|------------------------|

|    |
|----|
| 53 |
|----|

**REPORT DOCUMENTATION PAGE**

FORM APPROVED - - - OMB NO. 0704-0188

public reporting burden for this collection of information is estimated to average 1 hour per response, including the time for reviewing instructions, searching existing data sources, gathering and maintaining the data needed, and completing and reviewing the collection of information. Send comments regarding this burden estimate or any other aspect of this collection of information, including suggestions for reducing this burden, to Washington headquarters services, directorate for information operations and reports, 1215 Jefferson Davis Highway, Suite 1204, Arlington, VA 22202-4302, and to the Office of Management and Budget, Paperwork Reduction Project (0704-0188), Washington, DC 20503.

|  |                |  |
|--|----------------|--|
| 1. AGENCY USE ONLY (LEAVE BLANK)   | 2. REPORT DATE | 3. REPORT TYPE AND DATES COVERED<br><b>STUDENT RESEARCH PAPER</b>  |
| 4. TITLE AND SUBTITLE<br><br><b>AIR BASE DEFENSE IN THE 21<sup>ST</sup> CENTURY: USAF SECURITY FORCES PROTECTING THE LOOK OF THE JOINT VISION</b>  |                | 5. FUNDING NUMBERS<br><br><b>N/A</b>                               |
| 6. AUTHOR(S)<br><b>MAJOR MICHAEL P. BUONAUGURIO, UNITED STATES AIR FORCE</b>   |                |  |
| 7. PERFORMING ORGANIZATION NAME(S) AND ADDRESS(ES)<br><br><b>USMC COMMAND AND STAFF COLLEGE<br/>2076 SOUTH STREET, MCCDC, QUANTICO, VA 22134-5068</b>  |                | 8. PERFORMING ORGANIZATION REPORT NUMBER<br><br><b>NONE</b>        |
| 9. SPONSORING/MONITORING AGENCY NAME(S) AND ADDRESS(ES)<br><br><b>SAME AS #7.</b>  |                | 10. SPONSORING/MONITORING AGENCY REPORT NUMBER:<br><br><b>NONE</b> |
| 11. SUPPLEMENTARY NOTES<br><br><b>NONE</b>   |                |  |
| 12A. DISTRIBUTION/AVAILABILITY STATEMENT<br><br><b>NO RESTRICTIONS</b>   |                | 12B. DISTRIBUTION CODE<br><br><b>N/A</b>                           |
| 13. ABSTRACT (MAXIMUM 200 WORDS) THE UNITED STATES AIR FORCE SECURITY FORCES ARE TASKED WITH PROTECTING AIR BASE OPERATIONS IN SUPPORT OF THE JOINT FORCE. TECHNOLOGY DIFFUSION HAS EXTENDED THE LETHAL BATTLESPACE THROUGHOUT THE AREA OF INTEREST AND BEYOND. WHETHER EMPLOYED BY LEGITIMATE STATE OR NON-STATE ACTORS, THREATS ARE NO LONGER RESTRICTED TO A DEFINED BOUNDARY WITHIN THE COMMANDER'S AREA OF OPERATIONS. FOR DEPLOYED MILITARY COMMANDERS MISSION ACCOMPLISHMENT IS INCREASINGLY PREDICATED UPON SUCCESSFUL FORCE PROTECTION. ASYMMETRICAL THREAT STRATEGIES THAT RESULT IN AMERICAN CASUALTIES HAVE PROVEN SUCCESSFUL IN DISPLACING U.S. PRESENCE, AS WELL AS DEGRADING REGIONAL INFLUENCE. OVERCOMING THESE ACCESS CHALLENGES IS A KEY ELEMENT IN THE FULL DIMENSIONAL PROTECTION STRATEGY OUTLINED IN THE JOINT VISION. THIS STUDY WAS CONDUCTED TO DEVISE AN EVOLUTIONARY APPROACH TO ALIGN SECURITY FORCES DOCTRINE WITH OPERATIONAL CONCEPTS IN THE JOINT VISION. |                |  |
| 14. SUBJECT TERMS (KEY WORDS ON WHICH TO PERFORM SEARCH)<br><br><b>USAF SECURITY FORCES, AIR BASE DEFENSE</b>  |                | 15. NUMBER OF PAGES: <b>49</b>                                     |
|  |                | 16. PRICE CODE: <b>N/A</b>   |

|                                       |   |   |                            |
|---------------------------------------|---|---|----------------------------|
| 17. SECURITY CLASSIFICATION OF REPORT | 18. SECURITY CLASSIFICATION OF THIS PAGE: | 19. SECURITY CLASSIFICATION OF ABSTRACT | 20. LIMITATION OF ABSTRACT |
| <i>UNCLASSIFIED</i>                   | <i>UNCLASSIFIED</i>                       | <i>UNCLASSIFIED</i>                     |                            |

**Approved:** \_\_\_\_\_

**Date:** \_\_\_\_\_

#### DISCLAIMER

THE OPINIONS AND CONCLUSIONS EXPRESSED HEREIN ARE THOSE OF THE INDIVIDUAL STUDENT AUTHOR AND DO NOT NECESSARILY REPRESENT THE VIEWS OF EITHER THE MARINE CORPS COMMAND AND STAFF COLLEGE OR ANY OTHER GOVERNMENTAL AGENCY. REFERENCES TO THIS STUDY SHOULD INCLUDE THE FOREGOING STATEMENT.

QUOTATION FROM, ABSTRACTION FROM, OR REPRODUCTION OF ALL OR ANY PART OF THIS DOCUMENT IS PERMITTED PROVIDED PROPER ACKNOWLEDGEMENT IS MADE.

## *Table of Contents*

|                                    | <i>Page</i> |
|------------------------------------|-------------|
| MMS Cover Sheet                    | i           |
| DISCLAIMER                         | ii          |
| TABLE OF CONTENTS                  | iii         |
| EXECUTIVE SUMMARY                  | iv          |
| PREFACE                            | .v          |
| INTRODUCTION                       | 1           |
| I. AIR BASE ATTACK HISTORY         | 6           |
| II. THREAT AND THEORORISTS         | 13          |
| III. SURVIVING OPERATIONS TEMPO    | 17          |
| IV. THE JOINT VISION               | 20          |
| V. OPERATIONAL CONCEPT DEVELOPMENT | 23          |

|                           |           |      |
|---------------------------|-----------|------|
| VI.                       | DOCTRINAL |      |
| EVOLUTION.....            |           | 26   |
| LEADERSHIP.....           |           | 27   |
| SPECIAL CAPABILITIES..... |           | 30   |
| MOBILITY.....             |           | 32   |
| EQUIPMENT.....            |           | 33   |
| FUTURE IMPLICATIONS.....  |           | 35   |
| VII.                      | JOINT     | REAR |
| AREA.....                 |           | 36   |
| VIII.                     |           |      |
| CONCLUSION.....           |           | 39   |
| BIBLIOGRAPHY              |           |      |
| .....                     |           | 42   |

## ***EXECUTIVE SUMMARY***

**Title:** Air Base Defense in the 21<sup>st</sup> Century: USAF Security Forces Protecting the look of the Joint Vision.

**Author:** Major Michael P. Buonaugurio, United States Air Force

**Thesis:** The United States Air Force Security Forces are tasked with protecting air base operations as well as the air component capability in support of the Joint Force. To assure the full dimensional protection goals outlined in Joint Vision 2020, new operational concepts which enhance air base operability in forward deployed scenarios must be developed.

**Background:** The Joint Vision provides the template for doctrinal development to meet future challenges. To be effective in meeting transformation goals, new Security Forces operational concepts will need to be employed. The goal of these concepts is to overcome threat and access challenges to assure air base operability across the spectrum of military operations.



Asymmetrical threat strategies that result in American casualties have proven successful in displacing presence and degrading regional influence. Technology diffusion has extended the lethal battlespace throughout the area of interest and beyond. Overcoming access challenges, as well as developing force transformation goals, are critical to forward basing operations, which support the national strategy.

**Recommendation:** The Air Force has seen the most dramatic operational environment change since the drawdown. Its primary combat power is no longer sourced from well protected home based or near permanent Cold War air fields. As the primary ground defense capability for the Air Force, the Security Forces must develop new operational concepts which enable these forward based air operations. Security Forces operational capability must be more lethal and mobile in the near term to ensure a robust Air Force forward presence. Threats which degrade sortie rates must be overcome with effective employment of current capabilities to assure future development and acquisition considerations. Without assured access and presence the Air Force role in projected Joint Vision 2020 scenarios could be well diminished.

## ***PREFACE***

America's world economic and political dominance originates in global interests that influence its national will and requires power projection forces to sustain it. The effectiveness of US national strategy resides within the balance of these interests and capabilities in overcoming threats. Memories of military victories in the Cold War and Desert Storm have been replaced with apparent force protection failures in the face of several significant and successful terrorist attacks against U.S. forces. For deployed military commanders, mission accomplishment is increasingly predicated upon successful force protection. Asymmetrical threat strategies that result in American casualties have proven successful in displacing U.S. presence, as well as degrading regional influence. Whether employed by legitimate state or non-state actors, threats

are no longer restricted to a defined boundary within the commander's area of operations. Technology diffusion has extended the lethal battlespace throughout the area of interest and beyond. Overcoming these access challenges is a key element in the full dimensional protection strategy outlined in the Joint Vision.

The USAF Security Forces are tasked with protecting both air base operations as well as the air component capability in support of the Joint Force. This study was conducted to devise an evolutionary approach to align doctrine with operational concepts outlined in the Joint Vision. While improvements have been made in Security Forces organization, personnel, and training, insight gained from the research demonstrate the need for further development in fundamental employment strategies to assure the sustainment of forward based air operations.

I wish to acknowledge the efforts of my mentors, Dr. Mark Jacobsen and Col. Ron R. McFarland for their guidance in creating a meaningful study. I also want to acknowledge my conference group faculty advisors, Dr. Norman Cigar and Lt. Col. Tom Bright for the daily input that provided clarity in my purpose. Finally, I want to thank the Marine Corps University for providing an airman with several hundred years of expeditionary experience within a very short time.

## ***INTRODUCTION***

Tensions were high amongst the group assembled in the Italian forest about two kilometers north of the Aviano Air Base runway. The last scheduled Italian police patrol had passed about five minutes ago and the next would not occur until after the mission was complete. Jabdhar, a Taliban, recruited by Usama Bin Laden in Afghanistan, watched intently as the increasing tempo of lights and movement coming from the air base signaled that another major Operation Southern Watch mission was about to commence.<sup>1</sup> While the Italian members of the team seemed quite nervous, Jabdhar appeared calm as he prepared for the raid. This was not the first time he found himself concealed within view of an enemy airfield.<sup>2</sup> Thanks to Bin Laden's financial resources the al-Qa'eda terrorist had acquired three American made Stinger missiles through former members of the CIA supported Afghanistan.<sup>3</sup> Supported by a covert network, he traveled within the web of terrorist cells for almost three weeks. He had moved the missiles through Iran, Iraq, and Syria, then bribed a fishing boat crew to help smuggle them into Italy.

The movement of elements from Iraq's Republican Guard toward the border provided the impetus for tonight's air operations. Major John Reese would be the flight commander for a 4-ship F-16 formation scheduled for a 0200hrs takeoff. Their mission was to destroy an anti-aircraft battery and associated command and control facilities prior to a follow-on B-52 area

---

<sup>1</sup> Jalali, Ali A. "Afghanistan: The Anatomy of an Ongoing Conflict." *Parameters: U.S. Army War College Quarterly*, vol. XXXI, no.1 (Spring 2001): p. 85.

<sup>2</sup> Ibid. p 91. The al-Qa'eda is affiliated with Usama Bin Laden and has provided channels of financial support to the Taliban in Afghanistan. Estimated size is 400-600, but they have significant political power

<sup>3</sup> Yousaf, Mohammed, and Mark Adkin. *The Bear Trap: Afghanistan's Untold Story*, Lahore, Pakistan: Jang Publishers, 1992: pp. 174-176. The CIA provided stinger missiles to the Mujahideen via Pakistan to combat Soviet aircraft.

bombing demonstration just north of Kuwait. He had two experienced captains and a lieutenant with him for the mission brief. Major Reese felt confident; this was his eighth mission over Iraq to enforce the “no-fly” zone. Dangerous missions aside, he enjoyed living in Italy. Having his family stationed with him offset the risks he encountered. His flight member, Captain “Red” Baron, joked about the never-ending ability of Iraq to field more weapons, while Lieutenant “Tex” Ritter, a political science major, made a remark about the Republican Guard being involved this time.

Jabdhah was confident in his ability to shoot the Stinger. They were reliable and accurate over 75% of the time against the Soviets during the Afghanistan war, but he was concerned about the age of the equipment.<sup>4</sup> In concert with the air attack, another group was going to blow up a car at the Aviano base gate. This group had befriended Tony, a young American dependent teenager, and had placed a command-detonated bomb in his car. It had been concealed in the trunk along with musical equipment after a “gig” in a local off-base coffeehouse. They offered to follow him home in another car to make sure he got to the gate OK.

Precisely at 0200 Major Reese requested clearance, and the F16’s began their takeoff roll in a two by two pattern. The planes were heavy, with armament, bombs, and auxiliary tanks loaded with fuel. This was exactly what Jabdhah had hoped for. He swung into position and fired the Stinger; it tracked straight and true towards the first 2-ship formation overhead. Major Reese felt a shudder like none he had ever experienced before, within a second his plane began rolling over to its side, he instinctively pulled

the ejection seat lever with the frantic call, “eject-eject” from his wingman echoing in the radio. The second pair of F-16’s had cleared the runway to witness the spectacle. Only one attempted evasive action, Captain “Red” Baron immediately punched off his fuel tanks, stayed on afterburner, turned hard right and low to evade the second missile. He screamed at his wingman, “break left-incoming-break left!” but to no avail, Lt. “Tex” Ritter continued straight into the scene, thinking his flight commander had an accident. The third missile took off from the ground and struck Ritter’s F-16, which then exploded like a giant firecracker. Major Reese stopped yelling into his radio as he watched flame glittered pieces of Lt Ritter’s mortally wounded Falcon tumble to the ground.

As the second F-16 blew up the Security Forces sealed the gate. Tony sat three cars back from the gate and wondered what he had seen explode in the sky. As the guard approached him for an identification check, the car blew up with enough force to flip it upside down, killing Tony and the guard, as well as wounding several civilian pedestrians. The B-52s en route from Diego Garcia were ordered to return. Threat Condition Delta was established, and all flying attack missions were canceled.<sup>5</sup>

Major Reese saw the car, which Jabdhar and his group had stolen earlier, calmly drive away and blend into the traffic. He got a description and tried desperately to get a response on his radio, but too much was going on. He sat down, looked up at the sky he loved, and knew that flying would never be the same for him.

---

<sup>4</sup> Ibid. p 183. The Mujahideen attained a 75% average kill ratio with a Pakistan managed training program.

<sup>5</sup> Threat Condition Delta (also THREATCON) is a DoD established security posture in response to threat or potential threat aimed at the installation or area.

The Italian government immediately suspended all flying operations destined for the CENTCOM Theater pending a thorough review, and the European press throughout NATO called for suspension of U.S. basing rights. The Iraqi forces moved forward, the U.S. carrier battle group was in full surge air operations but would have only 48-72hrs of that capability. The CENTCOM CINC was prepping a brief for the NCA...

The preceding is fictitious but hardly fantasy. The end of the Cold War and resulting global destabilization is a catalyst for an increasing and credible threat to US forces. This attack threat is focused on forward based military operations fundamental to the access strategies, which support US power projection capability.<sup>6</sup> Understanding this critical vulnerability presents adversaries with an opportunity to induce actions that could displace the US military presence as well as its influence.<sup>7</sup>

Force protection, unfortunately, has become synonymous with zero or near zero casualty rates in forward deployed operations. Casualty prevention is an integral part, but cannot dominate operations in risk assessment; otherwise enemy anti-access strategies may succeed. The current aversion of the American public to any military contingency, which could produce US casualties, has been basis for many of these terrorist attacks. The majority of these belligerents do not possess the capability for direct engagement with US forces. They rely instead on asymmetric attacks to focus on this center of gravity as an opportunity to change US policy via public will.

---

<sup>6</sup> Joint Chiefs of Staff. *Joint Vision 2020*. Washington DC: GPO, June 2000: p. 7

<sup>7</sup> Ibid. pp 26-27.

What follows is an attempt to bring the lessons learned from attacks on air bases, along with fundamental defense rationales, and propose solutions in line with current doctrine for air base defense operations in Joint Vision 2020.<sup>8</sup> The paper emphasizes present solutions to exploit current Security Forces capabilities and recommends operational concepts that will enable and sustain forward based air operations in future scenarios. It argues that the current Security Forces structure must evolve beyond the transformation brought about the Air Expeditionary Force (AEF) if it is to remain effective. The result emphasizes that operational Security Forces employment must focus on the Joint Chiefs of Staff (JCS) strategic context to assure adequate attention and funding through the upcoming Planning, Programming, and Budget Cycle (PPBS). The development of new operational concepts form the basis for doctrinal revision to assure access for forward based air operations in future US global commitments.

The study is organized to address the Air Force Security Forces air base defense capability as an integral force protection element within the rear operations area.<sup>9</sup> The first section traces the evolution and impact of air base attack on air operations. Air base threats can be categorized into attacks designed to destroy aircraft, harass defenders, deny airfield use, and capture airfield operations. This forms the basis of comparison for evaluating potential anti-access strategies of adversaries. The paper analyzes and compares military theorists Clausewitz, Tsun Zu, and Mao for their applicability to defensive operations, particularly in modern scenarios where limited war often creates a use of force dilemma for the rules of engagement

---

<sup>8</sup> Ibid, p 27.

<sup>9</sup> Joint Chiefs of Staff. Joint Pub 3-10.1. *Joint Tactics, Techniques, and Procedures for Base Defense*. N.p., 23 July 1996: p. III-4

(ROE). It further investigates the operations tempo escalation brought about in the post-Cold War environment. The findings and recommendations from the Downing Report on the Khobar Towers bombing are examined along with the effects of the Air Expeditionary Force(AEF) reorganization on the Security Forces. The next section analyzes the force transformation template in the doctrinal process from vision through operational concept development. The integration of Security Forces into the Joint Rear Area (JRA) is outlined, as well as the command relationships that form the basis for rear area defense operations. The final section provides conclusion and summarizes the role of Security Forces for effective employment in support of the Joint Force Commander (JFC).

### ***AIR BASE ATTACK HISTORY: THE ACCESSIBLE TARGET***

*It is easier and more effective to destroy the enemy's aerial power by destroying his nests and eggs on the ground than to hunt his flying birds in the air.*

*General Giulio Douhet - 1921*

The US Air Force response to the June 1996 Khobar Tower terrorist bombing and resulting deaths of nineteen airmen was to abandon a major theater air support base and relocate operations to a remote airfield in the Arabian Desert.<sup>10</sup> While one problem was solved, the protection of US forces from attack within the confines of unsecured urban surroundings, it also provided the next terrorist an opportunity to attack US military operations without collateral damage or risk to the indigenous population.

---

<sup>10</sup> Downing, Wayne A., General, USA (retired). *Force Protection Assessment of the USCENTCOM AOR and Khobar Towers, Report of the Downing Assessment Task Force*. Washington DC: Department of Defense, 30 Aug 1996.



Airpower provides combat forces with a strike capability to simultaneously execute strategic, operational, and tactical missions essential to support the modern battlefield. Sortie generation is critical, particularly in the initial or enabling stage of a

conflict involving expeditionary forces. Airpower's effects are not apparent at once, but instead are achieved through the number of sorties flown over days or weeks.<sup>11</sup> The destruction of this capability, whether in war or in other limited conflict, must be in the forefront of any enemy's plan.

Revolutions in power, speed, and stealth characterize the modern airborne platform. Despite many years of development however, once parked in rows on the ground, aircraft become fragile targets. Combat air bases and operations present the enemy with an array of soft target opportunities. Intensive logistically, air bases require unimpeded circulation to sustain maintenance and service capabilities. Bases cannot be simply sealed and locked down, as combat air operations require both internal and external free-flow movement to assure efficiency. The damage or destruction of the linked support mechanisms, at any point, can bring air operations to a standstill.

Attacks on air bases have encompassed the full spectrum of military operations since the introduction of air power to the battlefield. Historically, commanders in major theaters of war often used massed formations of aircraft, infantry, or airborne forces in conventional attacks

---

<sup>11</sup> Institute for National Strategic Studies. *Strategic Assessment 1999*. National Defense University. N.p., June 1999: p. 268

to limit or neutralize enemy air capability.<sup>12</sup> Small unit attacks utilizing special forces were traditionally employed by major powers against enemy air operations also but generally for specific missions or limited objectives.<sup>13</sup> While both

large and small unit actions experienced tremendous success, commanders found that overwhelming force was not essential for tactical success against air operations. In World War II both Axis and Allied attacks often focused on the destruction of enemy aircraft and airfields.<sup>14</sup> The essence as well as the nature, of these attacks would change dramatically in the next 50 years. In contrast with technological revolution on the battlefield, the basis for the tactical transformation of air base attacks, surprisingly, resides not in the science, but in the objective. Throughout the Cold War and particularly during Vietnam airfields were attacked, but a new offensive direction emerged. Infiltration through layered ground defensive positions proved costly when compared to the freedom of movement that existed outside the base perimeter. The North Vietnamese/Vietcong found resources were more effectively employed in attack operations aimed at interfering with air operations rather than capturing airfields. Whether the raids resulted in aircraft, facility, or runway damage, sortie rates were impaired. Standoff weapons, as well as various forms of command-detonated explosives, soon became the weapons of choice amongst the many belligerents engaged in conflict since the 1960s.<sup>15</sup>

---

<sup>12</sup> Schlapak, David A. and Alan Vick. *Check Six Begins on the Ground: Responding to the Evolving Ground Threat to U.S. Air Force Bases*. MR-606-AF. Santa Monica, CA: The Rand Corp., 1995; pp 21-23

<sup>13</sup> Ibid. pp. 23-24

<sup>14</sup> Ibid. p. 24

<sup>15</sup> Alan Vick, *Snakes in the Eagle's Nest: A History of Ground Attacks on Air Bases*, Rand Note MR-553-AF (Santa Monica, CA: The Rand Corp., (1995), 16.

The current air base attack evolution alters the tactical focal point from air operations and base operability to casualty production. The rationale for these attacks is not simply an economy of force measure but a specific objective squarely aimed at political outcomes. Opponents unable to challenge major powers in force on force contests have reverted to asymmetrical methods that in many cases are based on lower level technologies to counter superior forces and technologies.<sup>16</sup>

Successful air expeditionary operations during Desert Storm and more recently in the Balkans not only continue to demonstrate US supremacy but also highlight a potential vulnerability to opponents. Attacks on air bases are not isolated events unique only to world powers engaged in major theater campaigns. Despite the defender's best efforts, research on air base defense show attacks have occurred across the conflict spectrum with much more frequency and success than most commanders realize. Since World War II 645 attacks, damaging or destroying over 2000 aircraft have occurred.<sup>17</sup> The preponderance of these attacks occurred during Vietnam (76%). Historical data on the 645 documented air base attacks compiled since World War II can be evaluated in terms of aggressor's objectives in the following categories: destroy the aircraft (60%), harass the defenders (27%), deny use of the airfield (7%), and capture the airfield (6%).<sup>18</sup> The most likely occurring scenario that a defender would encounter is an attempt to destroy aircraft or to harass the defenders.<sup>19</sup>

---

<sup>16</sup> Institute for National Strategic Studies. *Strategic Assessment 1999*. National Defense University. N.p., June 1999: p. xix.

<sup>17</sup> Alan Vick, *Snakes in the Eagle's Nest: A History of Ground Attacks on Air Bases*, Rand Note MR-553-AF (Santa Monica, CA: The Rand Corp., (1995): p. 19.

<sup>18</sup> Ibid. p. 16.

<sup>19</sup> Ibid. p. 10.

Aggressors have primarily employed three types of tactics against air bases: standoff weapons (75%), perimeter penetrations (22%), and combined attacks (3%).<sup>20</sup>

From the analysis it would appear the least likely attack scenario is the capture of an airfield. To attain this objective it would require fielding a regimental size force to seize the airfield, whereas the other objectives could be accomplished by a platoon or squad or even less. Capture of an airfield has usually been done to either use it as an airhead or for conducting offensive air operations as part of a high intensity conflict. The WW II German assault against British forces on Crete is an example on the operational impact on the loss of an important airfield. The Germans conducted an airborne raid against three British-held airfields on Crete. Though outnumbered 2.5 to 1 and suffering heavy losses, they managed to capture one of three airfield objectives. With a point of entry established, supporting German forces captured the other airfields and completely defeated the British forces.<sup>21</sup> In the Pacific arena, both sides focused campaign plans on the capture of airfields to sustain offensive operations. At Wake Island the Japanese suffered substantial losses combating the US defenders, was forced to withdraw and then return to capture the island in a subsequent operation. While the World War II Pacific Campaigns are beyond the scope of normal air base defense practices, they clearly demonstrate the critical requirement commanders placed on airfields. Due to the extensive force structure required to support an airfield capture operation, only four have occurred since WW II: (1) Operation Desert Storm, the US in Iraq, 1991, (2) Operation Just Cause, the US in

---

<sup>20</sup> Ibid. p. xvii.

<sup>21</sup> Ibid. pp. 28-32.

Panama, 1989 (3) Operation Urgent Fury, the US in Grenada, 1983, and (4) Soviet Union in Afghanistan, 1979.<sup>22</sup>

Attacks to destroy aircraft, harass defenders, and impair airfield use continue to be the tactics of choice in all levels of war. During Vietnam virtually all air base attacks focused on destroying aircraft and harassing the defenders. This caused air operations to

cease while forces engaged in active defense and post-attack recovery. The aggressive use of physical security aids acted as a deterrent against base penetration attempts and included an impressive array of fences, barriers, concertina wire, security lighting and mine fields. The layered defense combination proved too difficult for enemy forces to infiltrate. As a result standoff attacks, using indirect fire weapons, became the most effective strategy in overcoming base perimeter fortifications.<sup>23</sup> Mortar and rocket employment allowed the enemy to execute missions without having to bridge the perimeter and tactically engage base defense forces. This, too, was very successful, with the US suffering almost 1600 aircraft destroyed or damaged in 448 standoff attacks. These attacks were well planned and effective; however, other attacks began to occur which appeared to have another purpose. One hundred and seventy-two attacks involved fewer than five rounds fired with no associated damage or death.<sup>24</sup> In these attacks, we may infer the objective was not aimed on military value targets but occurred specifically to disrupt or demonstrate allied vulnerability.

---

<sup>22</sup> Ibid. pp. 11-12

<sup>23</sup> Schlapak, David A. and Alan Vick. *Check Six Begins on the Ground: Responding to the Evolving Ground Threat to U.S. Air Force Bases*. MR-606-AF. Santa Monica, CA: The Rand Corp., 1995; pp 37-38.

<sup>24</sup> Ibid. pp. 28-29.

Even a weakened enemy that retains will can find critical vulnerabilities and inflict significant damage to a susceptible air base. The initiation of Operation Overlord was predicated upon elimination of the German Luftwaffe as a threat factor in force protection. In late June 1944, an Allied bomber force recovered to a Soviet air base at Poltava after bombing raids to refuel and recover. Despite a dwindling war machine, the

Germans assembled a formation and bombed the Russian airfield. Eighty B-17s were destroyed or severely damaged as well as a 200,000 gallon fuel depot while awaiting service on the ground.<sup>25</sup> While the focus of this study is on forward air base defense strategies, significant attacks are not restricted to home based forces. In 1981 Macheteros terrorists infiltrated Muniz Air National Guard Base, Puerto Rico and destroyed eight operational A7D Corsair fighters using satchel charges. Three additional charges were found which did not explode. Though a guard was posted, no attackers were detected. The damage value: \$45M.<sup>26</sup>

Modern expeditionary operations increasingly rely on fewer high value combat platforms. This critical capability places air assets in emerging scenarios more vulnerable to attack. Stealth, large body, or other specialized aircraft are often deployed to forward bases in which Cold War era hardened shelters and other protective measures simply do not exist. Contingency operations significantly raise threat concerns when forces are deployed to less developed bases or in unstable political situations. The susceptibility of exposed aircraft to

---

<sup>25</sup> John F. Kreis. *Air Warfare and Air Base Defense* (Washington DC: Office of the Air Force, 1988), 205-211.

<sup>26</sup> Alan Vick. *Snakes in the Eagle's Nest: A History of Ground Attacks on Air Bases* MR-553-AF (Santa Monica CA: The Rand Corp, 1995) 66.

simple weapons such as small arms or sniper fire could result in significant damage to a national asset or capability.<sup>27</sup>

Since the end of the Vietnam War the asymmetric threat has taken center stage in force protection considerations. The common thread traversing the Marine Barracks in Lebanon, the Khobar Towers in Saudi Arabia, and the destroyer USS Cole in Yemen has been low tech terrorist actions in a penetration and destroy mission via suicide bombing. While not aimed specifically at air bases, they have impacted US military capability and options with restrictions on force emplacement supporting air operations. Trained US personnel cannot be easily replaced, and actions such as these alter many procedures, some permanently which impede overall capability.

While many more attacks have occurred, this sampling provides the range from conventional, deployed, and terrorist scenarios that present themselves daily. An enemy's air base attack strategies require a balance between manpower, resource, and weapons capability as well as the inherent advantages in attacking a static soft target objective. The defense considerations for both air and ground avenues of approach, as well as internal circulation control, must be accounted for in the force protection plan.<sup>28</sup> A recurring theme continually appeared during the historical study: A base defense force commander's vulnerability assessment must cover the entire spectrum of the threat and not simply the one for which he is most prepared or equipped to accomplish.

---

<sup>27</sup> Schlapak, David A. and Alan Vick. *Check Six Begins on the Ground: Responding to the Evolving Ground Threat to U.S. Air Force Bases*. MR-606-AF. Santa Monica, CA: The Rand Corp., 1995; pp 16-17.

<sup>28</sup> Department of the Air Force. AFI 31-301. Air Base Ground Defense Tactical Doctrine. Washington DC: GPO, 1999

## ***THREAT AND THEORORISTS: RULES OF ENGAGEMENT vs FOG AND FRICTION***

*No current weapons system would have prevented the attack on the USS Cole with the current theater Rules of Engagement (ROE).*

*Press Release - USS Cole Investigation - Dept the Navy Press Release - Jan 2001*

*Unclear ROEs slow down the OODA loop (Observe-Orient-Decide-Act).*

*Major Jason Bohm, USMC - Jan 2001*

*Conference Group 5, Marine Command and Staff College*

The stunning attack on the USS Cole and subsequent official statement released by the US Navy concede that no action was possible to defeat an assault against a naval combat vessel under currently issued orders.<sup>29</sup> Constraining the actions of a substantial military force demonstrates the highest level of the offensive operational art. Despite technological advancements in force protection, fog and friction remain tethered to the OODA loop. Sorting out centers of gravity and critical vulnerabilities with Clausewitz is not restricted solely to the domain of the commander engaged in offensive operations.<sup>30</sup> In the rear area it is the Ground Defense Force Commander (GDFC) charged with assuring air base operability to whom Clausewitz would trace the critical requirement for air base defense. The basis for effective air base defense strategy rises out of doctrinal concepts developed for the rear area. The rules of engagement (ROE) guide the use of force policy in response to political constraints. Particularly in rear area operations, the use of deadly force is often limited by ROE, and is driven by policy due to the potential for fratricide as well as non-combatant deaths. Joint Vision 2020 concepts

---

<sup>29</sup> The official press release and initial report were based on the force protection measures and alert status of the ship at the time of the incident.

<sup>30</sup> Clausewitz, Carl Von. *On War*. Princeton, NJ: Princeton University Press, 1976: pp. 83-84.



employing precision engagement capabilities to expeditionary forces are critical, as they form the basis for appropriate force application from which the US can exert its influence in power projection strategies.<sup>31</sup>

Modern expeditionary operations have US forces decisively engaged in Military Operations Other Than War (MOOTW) in situations spanning the range from peacekeeping to humanitarian assistance. Declared and undeclared civil wars, as well as internal conflicts between recognized governments and non-state actors contribute to an escalating tempo of regional and theater crises, which place air base operations in high threat scenarios. Within these limited war scenarios the defense force commander will find himself facing the dynamics of the Clausewitz's trinity.<sup>32</sup> Domestic support or will, international politics, and the soldier's conscience lie directly in the developmental path on limits of acceptable force. The destruction of an enemy capability may solve the immediate threat, but may in fact create the basis for loss of support and will if executed incorrectly.

Full spectrum dominance will require a full spectrum of skills and currently no silver bullet exists. Tzun Zu advises not to use force if the outcome is uncertain. It is essential that defense forces are able to employ their capability unimpeded but in a prescribed manner. Speed is the essence of war, whether it is in the decision-making process or in the quantity of ordinance delivered to a target. Time can be used as an asset by the defense force, whether it is in layered defense options or a clear communication capability. This provides space to sort out

---

<sup>31</sup> Joint Chiefs of Staff. *Joint Vision 2020*. Washington DC: GPO, June 2000: p. 22.

<sup>32</sup> Clausewitz, Carl Von. *On War*. Princeton, NJ: Princeton University Press, 1976: pp. 89.

the immediate response options as well as presenting the enemy with a dilemma; if he cannot be assured of the outcome he will be less likely to risk resources and attack elsewhere.

A look at one last theorist, who has shaped much of the world today: Mao. Limited war capabilities culminated in his victory in China. Disciples of any theory in limited war will study him. In a reference to the previous theorist, “know your enemy,” it is essential to understand that Mao believed, “there is no such thing as decisive battle.”<sup>33</sup> In limited war, and in the defense of an air base, success doesn’t necessarily breed success if forces cannot recover from repeated attacks. Joint Vision documents advocate that readiness not only includes the ability to accomplish a mission, but has the ability to reconstitute and do it repeatedly.

At the forefront of the air base defense capability is GDFC, who as commander of the Security Forces, provides the armed portion of the expeditionary support group. Time and distance from the FEBA no longer guarantee protection against elements in the asymmetric environment. During the Gulf War the US experienced more casualties from a single SCUD missile at a rear main operating base than in the first 24 hours in battle contact at the front. Air base attack recovery relies upon the development of a robust Survival Recovery Center (SRC). Located on each air base within the rear area, it provides command and control for initial as well as follow-up support for maintaining operability. The Security Force executes security roles, but all support functions must be sustained without gaps to assure continuous air operations. Defense responses must incorporate the full spectrum of both lethal and non-lethal

---

<sup>33</sup> U.S. Marine Corps. Marine Corps Combat Development Command FMFRP 12-18. *Mao Tse-tung on Guerilla Warfare*. N.p., 5 April, 1989: p. 52.

weapons to fully empower the sentry.<sup>34</sup> Advanced technologies will result in the dramatic improvements to both kinetic and non-kinetic weapons; however, adversaries will continue to frustrate advance technologies and weapons by entangling ROE in fog and friction to impede or stop decisive action.

While not a classic theorist by definition, defense force commanders should seek counsel from General George Patton. A proponent of offensive operations, he also believed it was very difficult to defend an objective against a determined adversary. The side on the move retains the advantage. Which theorist a defense force commander holds in high regard is not the objective here. Active defense, patrols, and counterintelligence are some of the tactics that can enhance security. Unclear ROE or asymmetric threat, however, might “fix” a defense force and make it susceptible to the adversary who retains the ability to maneuver. The GDFC must draw from military theory and assess the adversary’s vulnerabilities to produce enabling strategies that inspire rather than limit action.

### ***SURVIVING OPERATIONS TEMPO: SECURING THE AEF***

*Don’t fragment or piecemeal units to support operations.*

*Lt General Ernest C. Cheatham, USMC (ret)  
Commander, 2<sup>nd</sup> Bn, 5<sup>th</sup> Marines, Battle of Hue - Tet - 1968*

The basis for the current challenge confronting Security Forces is rooted in the military drawdown coupled with increased operations tempo since the end of the Gulf War. Significant

---

<sup>34</sup> Lower, Nick and Steven Scholfield. *Non-Lethal Weapons: A Fatal Attraction?* London and New Jersey:

forward presence requirements followed the Khobar Tower bombing with the relocation of US Air Forces to Prince Sultan Air Base, Saudi Arabia, as well as the force protection build-up at other bases throughout the USCENTCOM. Unlike other services utilizing combat infantry or equivalent units, the Security Forces (the Air Force's sole infantry capability) maintain a home station mission securing aircraft, missiles, and other strategic national (i.e. nuclear) capabilities.<sup>35</sup>

What makes this requirement both

essential and unique is that Security Forces may be simultaneously be securing a JFACC's operational air capability at home station while supporting a theater CINC's plan. This high operations tempo competes with daily security operations through deployments, exercises, contingencies, and off-station training. The Security Forces maintain one of the highest off-station deployment averages in the Air Force, which is exceeded only by a few low density, high demand specialties.<sup>36</sup>

The introduction and development of the Air Expeditionary Force significantly improved the tasking processes in deployment scheduling but did little to alleviate personnel shortfalls. Tasked Security Forces elements may include squad, fire team, and flight levels. Special requirements ranging from military working dog (MWD) teams, investigators, and special weapons remain tasked on a case-by-case basis.<sup>37</sup> Though rotations are handed out on a fair share basis many unit capabilities, particularly among specialized skills, remain at mission

---

Zed Books, 1997: p. 22.

<sup>35</sup> Department of the Air Force. AFI 31-301. Air Base Ground Defense Tactical Doctrine. Washington DC: GPO, 1999.

<sup>36</sup> Few specialties deploy as often, some examples include personnel assigned to specialized aircraft, such as U-2, AWACS, and other associated intelligence missions.

<sup>37</sup> Qualified Investigators and Military Working Dog (MWD) Teams remain as the most tasked elements within the Security Forces. MWDs support the full range of operations from bomb detection to Secret

essential levels. In response to these shortfalls and concurrent with the introduction of the Air Expeditionary Force (AEF), the 820<sup>th</sup> Security Forces Group (SFG) was formed to create a combat ready air base defense force not tied to daily security tasks.<sup>38</sup> Still growing in both size and capability, this force exists to present a tactical capability to secure airfields and protect air base operability.

In the face of the expanding threat and ops tempo, the Security Forces should look to the other service's deployment cycle paradigms to improve readiness. Marine and Army expeditionary units are specifically assembled, trained, and exercised for deployment to support the joint force. They stand down at the completion of the combat deployment as a unit. During this stand-down time they execute home station, garrison, and field training requirements to improve both individual and collective skills. My recommendation is to implement a three tiered approach to assure Time-Phased and Force Deployment Data (TPFDD) forces are available to execute the CINC's mission, as well as provide the basis for improved readiness and home station security requirements.<sup>39</sup>

The Security Forces first echelon readiness priority should reside with the current AEF rotation and 820<sup>th</sup> SFG. The next readiness echelon would be assigned to units in the follow-on AEF and to units apportioned in deliberate planning which support 60-90 day TPFDD deployment responses. Third echelon forces would rely on just-in-time training, with deliberate

---

Service details. Investigators can provide assistance for liaison in Humint missions supporting Office of Special Investigations (OSI) throughout the world.

<sup>38</sup> The 820<sup>th</sup> is formed through recruitment of Security Forces qualified specialties, as well as other support functions, engineers and communication. They maintain a full complement of combat skills plus airborne qualifications to support forced entry missions to secure airfields and air operations.

<sup>39</sup> TPFDD is a joint operations designation for forces which are supplied to the CINC from tasked force suppliers (i.e. for major commands in the Air Force: Air Combat Command (ACC)

planning development responsibilities residing with the force providers. Current Operational Readiness Inspection (ORI) scheduling would be removed from calendar rotations and be accomplished during the build-up phase in preparation for AEF deployments.<sup>40</sup> To assure planning sufficiency for third echelon forces, wing commanders would exercise the security portions of just-in-time training plans to assure a robust capability exists. Security Forces not assigned to an upcoming deployment cycle would be engaged in individual and collective training requirements

that

exist at home station. Realignment of these standards would relieve commanders and units from unnecessary inspections and off-station training, along with focusing Security Forces MAJCOM staffs on core readiness functions.

### ***THE JOINT VISION: FULL DIMENSIONAL PROTECTION***

*If it wasn't for air supremacy, I wouldn't be here.  
General Dwight Eisenhower, Normandy Beach - June 1944*

*If you don't know where you are going, any road will take you there.  
-Anonymous*

Probably the most significant after-action force protection document for modern air base defense came from the Downing Commission after the attack on Khobar Towers. Many of the findings were concerned with inconsistent force protection action, plans, and

---

<sup>40</sup> ORIs are the basis for determining the combat readiness of an Air Force Wing. It is focused on combat tasked requirements and is graded on objective standards set by the MAJCOM.

communication practices that were not consistently applied within the area of operations.<sup>41</sup>

These inconsistencies were highlighted and command and control functions were developed to insure Threat Conditions (THREATCON) and other threat procedures would be applied equally.<sup>42</sup> Many of the recommendations, particularly those that were equipment, policy, or training oriented, as well as for the relocation of US forces to Prince Sultan Air Base, have been incorporated into operations. Some of the

recommendations were focused on the State Department functions and are beyond the scope of this report.<sup>43</sup> Downing's investigation recommended that Security Forces have an organic intelligence capability.<sup>44</sup> Current Air Force intelligence resources tend to focus primarily on air rather than ground operations. The other part of the intelligence capability is based on Security Forces liaison with Air Force Office of Special Investigations (OSI). The OSI is very capable in gathering HUMINT data, but can be over-tasked at times by requirements outside of Security Forces control. Funding continues to be the overreaching problem, but at least it's a consistent one. The challenge for the Security Forces is to articulate the critical capability of air base operability relationship to the critical requirement for air power in executing power projection strategies to higher level commanders. Leadership would agree that hardened structure and advanced sensor technologies are valuable, but with limited resources what

---

<sup>41</sup> Downing, Wayne A., General, USA (retired). *Force Protection Assessment of the USCENTCOM AOR and Khobar Towers, Report of the Downing Assessment Task Force*. Washington DC: Department of Defense, 30 Aug 1996: Finding 5 - "Force protection practices were inconsistent in Saudi Arabia and Arabian Gulf Region."

<sup>42</sup> Ibid. Finding 10 - "The Department of State and elements within the DoD ascribe different Threat Levels...causing confusion among recipients of this information."

<sup>43</sup> Ibid. Finding 16 - "U.S. Embassy security resources are insufficient to adequately protect ..."

<sup>44</sup> Ibid. Finding 11 - "The lack of an organic intelligence support capability in the U.S. Air Force Police units adversely affects their ability to accomplish the base defense mission."

weapon system would be sacrificed to get them? More importantly, will the money spent actually assure protection from the asymmetric threat?

While the Downing Report criticized leadership preparedness, there were many contentious arguments over responsibilities in the face of the threat.<sup>45</sup> The outcomes for or against can be argued at length, the lesson learned, however, is that direct leadership involvement remains the most consistent aspect across the range of military operations. The commander's assessment or walking of the battlefield remains the most crucial element in force protection.

The Joint Vision is clear in expectation: full spectrum dominance across the range of military operations. The first edition, Joint Vision 2010, provided a common basis in three areas: JV2010 mandated interoperability by bringing the service components together in planning, required joint training and concept development, and instituted the process for doctrinal transformation.<sup>46</sup> For the US to overcome "anti-access strategies," innovative active and passive defense as well as force dispersal and recovery operations need to be improved. The operational concepts that will enable the joint force are dominant maneuver, precision engagement, focused logistics, and full dimensional protection. Security Forces doctrinal development and employment must position them for essential operational concept funding priorities in the 2005 Quadrennial Review (QDR) to meet Joint Vision 2020 goals.

What implications are here for Security Forces? Concepts of future operations include massed effects from dispersed locations. Asset dispersal throughout the AO will put

---

<sup>45</sup> Ibid. Findings 19 and 20 - "The CoC did not provide adequate guidance and support to the Commander, 4404<sup>th</sup> Wing, and The Commander, 4404<sup>th</sup> Wing did not adequately protect his forces from attack."



tremendous pressure on command and control, not to mention force protection functions in the Joint Rear Area.<sup>47</sup> Rapid Global Mobility development may be able to deploy 5 AEFs in 15 days to a major theater war (MTW).<sup>48</sup> Projected 2010 theater airflow is known today. What changes must be made to ensure adequate Security Force defense assets are in place? Future defense force deployments may be more focused on a specific capability rather than simple force size and equipment configurations.

None of the recent attacks against US forces have been successful based on overwhelming force. In each investigation information and intelligence was available which might have prevented or at least mitigated the effects. Limitations in the rear area appear to be based on the lack of intelligence and counter-intelligence operations. Information superiority based on organic intelligence, not firepower, may become the defender's critical capability against the asymmetric terrorist attack. UAV and space based technologies employed within the JRA would improve every level of air base security. As adversaries continue to be both innovative and adaptive, time may become the critical capability influencing Security Force engagement strategies.

## ***OPERATIONAL CONCEPT DEVELOPMENT: THE CATALYST FOR TRANSFORMATION***

---

<sup>46</sup> Joint Chiefs of Staff. *Joint Vision 2020*. Washington DC: GPO, June 2000: p. 27. Outlines the integration of 2010 with 2020.

<sup>47</sup> Joint Chiefs of Staff. *Joint Vision 2010*. Washington DC: GPO, June 1996: p. 20

<sup>48</sup> Joint Chiefs of Staff. *Air Force Vision 2020*. Washington DC: GPO, June 2000

*This threat can be countered through concerted efforts at all levels to plan, prepare, and enforce force protection measures. Our vulnerabilities can be overcome. It will take energy, command attention, and resources.*

*Wayne A. Downing, General, US Army (retired) - 1996*

Where do the Security Forces stand in doctrinal evolution for planning and programming for JV 2010? JV2020? In moving towards the operational concept phase the CINCs become involved in joint experimentation and training.<sup>49</sup> To assure doctrinal integration of these concepts results are then fed back to the components to form the basis for deliberate planning and operational concept of employment. In moving from vision to operational concept the evolutionary considerations for JV 2010 must be kept in the context of reasonable spending and current technologies. At the doctrinal level, off the shelf solutions conforming to established budget constraints must be found. Doctrine is employed and evaluated at the National and Joint Regional Training Center (NTC, JRTC) level. JV 2020's downrange location in the far term allows considerations for breakthrough technologies with flexibility in budgeting. While the above phasing in the doctrinal evolution continues, the test of Rapid Deployment Operational (RDO) capability will occur in 2002. The Joint Forces Command (JFCOM) has been tasked to plan and exercise RDO as part of the JV 2020 concept in exercise "Millennium Challenge." The findings here will very likely influence the next QDR and determine resource allocations. For Security Forces JV 2010 lies in the range of evaluating what exists and where can it be used, whereas JV 2020 allows consideration for more exotic technologies. Precision engagement, dominant maneuver, focused logistics, and full

---

<sup>49</sup> Joint Chiefs of Staff. *Joint Vision 2010*. Washington DC: GPO, June 1996: p. 35 - outlines the vision through experimentation phase to be employed by JFCOM.

dimension protection, with emphasis on characteristics essential to Security Force planners are outlined.

Precision Engagement will enhance force application alternatives in response to emerging threats. The emergence of lethal and non-lethal weapons will be influenced by advancements in both kinetic and non-kinetic weapons systems. Further developments will be concerned with tracking and selecting target objectives. Furthermore, once these targets have been engaged the forces will also have an immediate capability to assess the results. Precision engagement in humanitarian and peacekeeping missions will focus on non-lethal force application to defuse situations where ROE preclude the use of deadly force.<sup>50</sup>

Dominant maneuver will enhance Security Forces speed and movement throughout the tactical footprint of the air base. Information superiority will enable the force to ascertain the threat's activity to shape the air base defensive posture and minimize opportunities for the enemy to freely operate. By quickly demonstrating presence and capability adversaries will be unable to overcome the tactical operations tempo.

Focused logistics sustain the defensive capability of deployed Security Force personnel. The challenges in the rear area are affected more by conflicts in priority than capability. The focus on the fight must always be in the main battle area; therefore supply during high draw periods is often delayed. Tailored equipment requirements could be configured to match conflict phases to assure adequate presence in the fight.

---

<sup>50</sup> Alexander, John B. Col, USA (retired). *Future War: Non-lethal Weapons in Twenty-First-Century Warfare*. New York: St. Martin's Press, 1999: pp. 127-130.

Full dimensional protection means the ability to conduct the full range of military operations with an acceptable risk level. Protection of personnel and resources on air bases is the primary Security Force mission. Multiple strategies based on both active and passive measures should be used to form a layered approach in force protection efforts. Examples of passive techniques include shelters and barriers, while active techniques encompass entry control and a theater defense missile weapon system application. The challenge for future defense strategies does not necessarily lie in overcoming the threat but may lie in adapting to constraints.

## ***DOCTRINAL EVOLUTION BECOMING AN AGILE DEFENSE FORCE***

Security Forces operational concepts must be translated into doctrine for tactical development to assure full dimensional protection for air base operations. Changes or recommendations in this chapter focus on both interim JV 2010 as well as JV 2020 goals. Though complementary, changes in the near term must reflect current time and budget constraints, while out-year changes can be more flexible. Those changes, however, may require further modeling and testing or await technology applications impractical now. Developments and changes encompass the organizational spectrum of leadership, personnel, organization, training and education, and equipment. While technology will account for innovation, more headway will be made by providing personnel with the full complement of skills to exploit these advancements. Along with potential operational improvements, it became apparent that several previously employed Security Force programs could be “dusted off,” and tailored for the

current environment. It is possible that some of these recommendations are currently being implemented on a limited basis. To fully exploit the operational concepts more development is required. The ability of Security Forces to defend air bases is essential to the Air Force ability to conduct forward based air operations. Air operations blunted due to anti-access strategies will result in reduced acquisition priorities in the Program Objective Memorandum (POM) process and could pose a threat to the Air Force's role in airpower projection strategies.

The following recommendations evolved from research as well as personal experiences. Some of the most influential recommendations, however, are based on Marine Command and Staff College Art of Command lectures. The presentations came from both current and retired commanders with firsthand tactical experiences in significant combat events over the past 40 years.

### ***LEADERSHIP***

Walk the battlefield. As a ground force within the air component, the Security Forces have had to look to the experiences of other services in the development of tactics and strategy. With the interoperability created by the joint force this can be considered an asset. Our nation's most successful ground commanders, through either professional military education or development opportunities, have walked the ground of significant military operations to gain insight from which to apply to their own leadership skill and philosophy. This connection to the past is not solely in the domain of the ground commanders however. Detailed descriptions in conjunction with modeling and simulations are used to explain fighter engagement tactics to relate maneuver experience among pilots to win air battles; in effect walking the ground.

The recommendation is to develop a continuing leadership walk the ground experience for commanders which goes beyond lessons learned publications. Specifically, annual Security Forces Commander's Conferences would take place near the site of significant security incidents to walk the ground.<sup>51</sup> The responsibility for developing the presentation would lie with the MAJCOM; NAF or mission tasked sub-unit sponsoring the conference. These could occur both in and out of CONUS based on practicality. Significant events could range from an aircraft security penetration and

damage

event, such as the previously mentioned 1981 Puerto Rico event or a terrorist incident, such as the Ramstein Air Base terrorist bombing. The events would not necessarily be solely air base in origin or even in recent experience. Based on the current threat, anywhere a small defense force engaged a threat and used resources, terrain, and maneuver to defend itself would be applicable.

Suggestions could be solicited from any source and collated at the headquarters or battle lab level. By siting the event in coordination with a MAJCOM headquarters, company grade staff officers would be able to act as the research and presentation cadre. Experiences garnered either from invited guest lecturers present at the event, or from question and answer exchanges would be passed around the presentation. The nature of these presentations would provide the basis for enhanced communication as well as education and improve combat effectiveness for all leadership echelons.

---

<sup>51</sup> Security Forces conduct annual conferences just as many other specialties to dispense and share information pertinent to operations

The Air Force accomplishes many of its contingency exercises from command post exercises. From war to exercises in the past 20 years, it was not uncommon to see ground defense commanders issuing action orders from the Base Defense Operations Center (BDOC), as well as ground defense flight leaders trying to control squad movement while tied to their sector command posts. A common thread exists, not in theory, but in real combat experience; commanders must lead from the front. Home station Major Accident Response Exercises (MARE) often result in the entire wing leadership being sequestered in an underground command post (CP) while the least adept leadership attempts to direct responses with poor results. Experienced combat leaders, particularly in high density or urban terrain exercises have emphasized how easy it is to lose control of assigned forces, particularly the maneuver elements without an immediate view of the battlefield. This loss of control is a recipe for disaster and can be found amongst readings of many small unit combat action failures. Prevention of fratricide is one of the primary considerations in advocating commander's presence forward. This view is absolutely essential to execute command and control functions to overcome fog and friction elements. Courses of action must incorporate this emphasis in all levels of guidance and particularly in basic qualification and advanced training courses.

Chain of command is not only a key element in functional efficiency; it is an imperative towards success and survival in combat. It is essential that each level of responsibility from the fire team to the defense force commander be capable of leading to the next level. Within the dynamics of tactical action, leadership must be able to connect with assigned elements and provide direction. Taking the lead in tactical situations may occur, not because of leadership

loss, but due to time and location constraints. These abilities help to sustain speed and synchronization efforts critical to success.

Doctrinally there is nothing cutting edge here; however, operationally the Air Force has seen the most dynamic change when compared to other services since the drawdown. The Army and Marines have always been in close contact with enemy forces, it is the nature of their battle. Today, the Navy can operate much of the time remaining at sea to minimize risk, out of range of adversaries. The Air Force, however, has gone through an evolution from which our primary combat power was either home based or in near permanent airfields of the Cold War bases to a high threat environment.<sup>52</sup> None of the Joint Vision concepts are valid if immediate leadership capability is not present.

### ***SPECIAL CAPABILITIES***

The dispersal solution. One of the most combat capable forces to rise out of the cold war was the Security Force Ground Launched Cruise Missile (GLCM). This was the first dedicated defense force since the dissolution of the Safe Side base defense program in the Vietnam War.<sup>53</sup> Although the program was disbanded with the SALT Treaty approval, it provided the Security Forces with a vision of what could be done with a dedicated force not tied to daily operations. The basis for the mission was the field deployment of a nuclear capable

---

<sup>52</sup> The majority of Air Force commanders outside of Security Forces do not receive much ground defense tactical training, the exposure of support elements such as engineers, communications, services, and logistics specialties to these risks may be the basis for developing this training.

<sup>53</sup> Fox, Roger P. *Air Base Defense in the Republic of Vietnam 1961 - 1973*. Washington DC: Office of Air Force History, 1979 - Safe Side was a base defense program established after the 1968 Tet offensive for a dedicated Security Force. While effective it was disbanded after the Vietnam war. It is the basis for which the Security Forces established the 820<sup>th</sup> Security Forces Group (SFG) as mentioned previously.



cruise missile system defended by a Security Forces flight.<sup>54</sup> The success of these flights in defending the highest priority level resources demonstrates there is an organic capability to achieve the same capability in support of the joint vision tenet: massed effects from dispersed resources. These dispersed resources may be in or out or in combination of a CINC's geographic responsibility. Organization in the defense of these within a deployed scenario in a common theater must be planned and evaluated. The nature of rear operations is based on command and control by a single rear area commander with supported bases grouped in clusters.<sup>55</sup> While the BDOC is responsible for an individual base defense operation, it is the Base Cluster Operations Center (BCOC) that would have to be represented with a coordination and communication capability to sustain defense and survival operations. (see fig. 7-1) Past operations have had infrastructures based on large logistics footprints serving large air operations centers. Dispersal could mean very minimal infrastructure supporting a purpose built forward staging airfield. Cluster operations would entail not only tremendous communications challenges but also a distinct and separate force protection network to support ground responses. This response capability would require interoperability with all joint rear operations to be effective.

As dispersal becomes operational, Security Forces will have to organize a force tailored to defend the resources; a JV2010 challenge. As the dispersal innovations occur which give air operations more flexibility and speed with less logistical support, Security Force maneuver,

---

<sup>54</sup> The Security Forces flight is a 44 person flight, consisting of 3 squads and a leadership element. The GLCM program demonstrated that the forces were capable of independent operations in high threat environments. The nature of the GLCM tactic was dispersal, relating it directly to JV2020 operational concepts for massing fires from dispersed locations.

communication, and information requirements will have to be developed which support JV2020; an Air Force challenge.

One of the most capable tactical elements within most Security Forces Squadrons is the Emergency Services Team (EST). Similar to SWAT in civilian terms, the capability has evaporated from many units due to personnel shortfalls and high ops tempo. Within these teams reside a number of special capabilities essential in MOOTW: sniper, anti-hijack, reconnaissance, and a host of other critical capabilities. Each of these tasks are accomplished at the highest level of precision and in the case of snipers, brings a significant force multiplier essential to assault and counterassault operations. The addition of tasked EST to the TPFD would enhance not only capability, but also provide the GDFC an organic solution to significant events; hostage, and aircraft hijack attempts, as well as host nation assistance to enhance multinational and coalition relations as well.<sup>56</sup> This force and capability could be added to the Air Mobility Command (AMC) Security Force Raven teams who travel with their aircraft to provide a significantly more sophisticated protection capability when forces are deployed to high threat locations.<sup>57</sup>

## ***MOBILITY***

The sustained operations to support US Forces since the end of Desert Storm, while placing a strain in a variety of areas, have produced some of the most flexible logistics system

---

<sup>55</sup> Joint Chiefs of Staff. Joint Pub 3-10.1. *Joint Tactics, Techniques, and Procedures for Base Defense*. N.p., 23 July 1996: pp II-1 - II-5.

<sup>56</sup> Koehrsen, Bernal F. Jr. Lt Col, USAF. *United States Air Force Emergency Service Teams*. Maxwell AFB, AL: Air University Press, December 1986. Many Security Force units attempt to maintain this capability as manning allows. Both individual and collective training hour requirements are high due to large number of perishable skills involved.

capabilities supporting CINCs. The basis for Security Force TPDF deployment is an equipment list which covers the worldwide combat potential. While it varies with the size of the deployment, flight, squad, or fire team it is still published in deliberate planning as a fixed size number of equipment pallets. During significant mobility operations, such as Desert Storm, commanders have often been faced with personnel transportation availability but no room for equipment choices. The USCENTCOM rotations have allowed most combat equipment to remain at home station with build-up in the theater able to support the force. In wartime this equipment package or LOGDET should be tailored relative to support capability published by the CINC. A built up base may require no more than essential combat gear, whereas the forward staging area may require an entire LOGDET plus a communications suite and water making capability. Current Joint Vision is pointing to an even more aggressive just in time supply and support operation. The Security Forces need to add flexibility and coordinate these efforts to join the logistics progression.

The core capability of a security force is wrapped in weapons, communications, and vehicles. Commanders do not have a Security Force capability if all three are not present. Security Force units generally deploy without vehicles in the LOGDET unless specifically assigned. My recommendation is to revise the LOGDET, remove pallets and relocate equipment to nesting boxes in the cargo variant of the HMMVW. An organic vehicle capability cannot be overemphasized and availability of previously deployed support has not been consistent. Even developed air bases have patrol areas that require special capability vehicles.

---

<sup>57</sup> Raven teams consist of a small number of Security Force members who travel with aircraft and provide security. Particularly in MOOTW or Humanitarian scenarios organic defense at deployed airfields is often minimal or nonexistent.

By including vehicle mounts for heavy weapons, maneuver of key weapons systems would be assured upon arrival. The drive-on and drive-off capability would add a dimension of speed and agility to the combat support function. This capability would eliminate forklift requirements at both ends of the movement process. It would allow immediate patrol response capability in assaulting and establishing operations in unimproved areas. The establishment of Security Forces capability would provide all combat support and airfield operations to function with an immediate force protection umbrella. Once the airhead is established the transition to intratheater lift is simplified and allows rapid movement from one rear operation to another. One vehicle per squad and three to four per flight, in a standard configuration would permit this basic capability to exist.

### ***EQUIPMENT***

After manpower equipment becomes the most sought after resource for commanders. No other issue generates as much passionate argument at virtually every level. The nature of supporting rear area operations means that forces at the front should get the best support and equipment available. In seeking Security Force doctrinal solutions aimed at JV 2010 the question, what can I do with what I have now, holds true. Solutions for major and or more costly systems will be in the out-year realm of JV 2020. Influencing this investment happens in the current employment and usage of the Security Force; therefore, to gain the most benefit near-term strategies should be focused on the current mission profiles.

Nonlethal weapon technology will move to the forefront in MOOTW missions. It is this capability which will enhance precision engagement requirements. While the Marines are the lead Defense Department agency, the Security Forces active law enforcement proficiency has

provided the skills necessary to employ the techniques.<sup>58</sup> Most of the applications currently deployed are focused on confrontation management. Protective face and body shields, pepper spray dispensers, and striking weapons are employed by Security Force members now. Tear gas, one of the older nonlethal technologies, can be used to great effect. During the Battle of Hue in 1968 tear gas proved to be the most effective weapon in clearing facilities in dense urban terrain.<sup>59</sup>

The case must be made for better operational information and intelligence enhancement. The Security Forces have no organic intelligence capability. They depend upon wing level intelligence that is generally focused on the air mission and Office of Special Investigations(OSI) support assigned to the wing commander. Much of the equipment is expensive and fragile. Deployable video and sensor capability with a potential to interoperate with space based capabilities must be developed.<sup>60</sup> The key to successful acquisition may be in finding innovative ways to co-utilize these assets and present the successes in after-action reports and summaries to the CINCs.

There are two air-based capabilities that are currently on the shelf, deployable, and in use by other forces. The Unmanned Aerial Vehicle (UAV) and the Stinger surface-to-air missile defense system. Both present acquisition and employment challenges for Security Forces. While both are costly, they also present operational risks within airfield operations

---

<sup>58</sup> The Security Forces Battle Lab located at Lackland AFB coordinates testing activities and coordinates evaluation with other components.

<sup>59</sup> General Ernest Cheatham. Art of Command, MCU

<sup>60</sup> Downing, Wayne A., General, USA (retired). *Force Protection Assessment of the USCENTCOM AOR and Khobar Towers, Report of the Downing Assessment Task Force*. Washington DC: Department of Defense, 30 Aug 1996: Finding 25;- Ties JV 2020 to a specific finding in the report - "Technology was not widely used to detect, delay, mitigate, and respond to acts of terrorism.

without positive command and control. However, once properly employed, they would present the rear area commander with an enhanced organic intelligence and self-defense capability.<sup>61</sup>

### ***FUTURE IMPLICATIONS***

Presenting the Joint Force commander with assets rather than liabilities is the most important factor for improving Security Force presence in full dimensional protection. The tailored 2010 Security Force would have an improved mobility capability with organic vehicle assets providing capabilities for security, maneuver, and mobility. Special capabilities ranging from special EST teams with sniper skills and nonlethal weapons would place more force employment flexibility in theater.

The 2020 Security Force would add total communication interoperability with space integration, an organic intelligence function, and point area defense capability. This agile combat support force with specific force application capabilities presents the Joint Force commanders with unique employment options not available elsewhere in the Joint Rear Area.

### ***JOINT REAR AREA SECURITY FORCE INTEGRATION***

*Milosevic should have sent small teams armed with surface-to-air missiles into Western Europe to attack NATO planes as they took off. A terrorism campaign in Europe might have convinced some countries to withdraw basing rights from US forces.*

*From "Unrestricted Warfare" on Kosovo, Senior Col Qiao Liang, PLA, China - 1999*

---

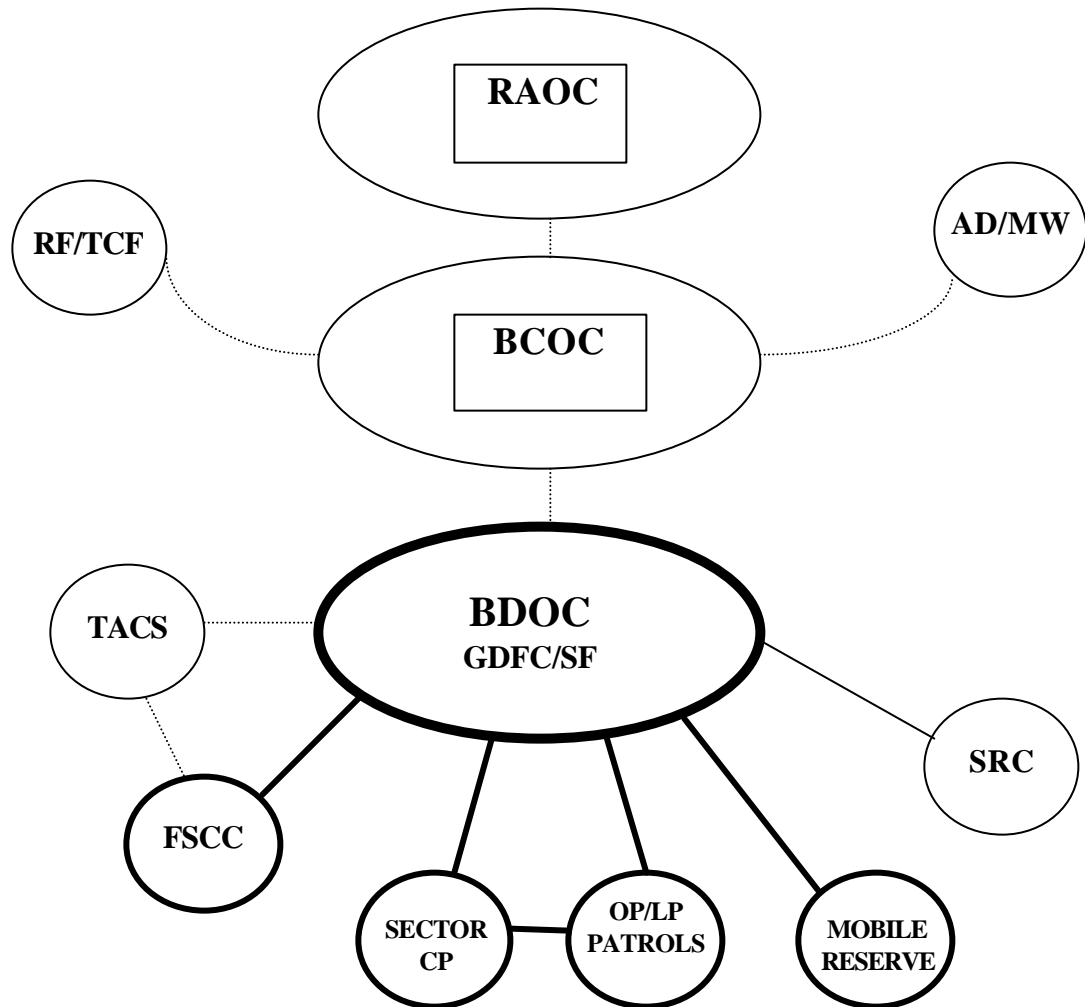
<sup>61</sup> While both UAVs and Stinger Missile systems are deployed to other ground based service, the Security Forces remain without the organic capability for point air defense. As long as air bases remain as Main Operating Bases or as significant theater entry points, this capability is generally available within the JRA. If the air operations are more remote, the gap in both intelligence and air defense create a significant force protection vulnerability.

*A joint rear area is a specific land area within a joint force commander's operational area designated to facilitate protection and operation of installations and forces...*

*Joint Pub 3-10.1 Joint Rear Area Operations*

Security Force mission in support of the Joint Rear Area (JRA) focuses on execution of base defense work priorities and continual support of force protection efforts. These essential missions center on threat level response, and active base defense during attack. Challenges for the Security Force include existing security or lack thereof, coordination of all defense assets on the airfield and security operations constraints. Establishment of command relationships is clearly outlined in the battle order. At the lowest level are three tactical functions; the fire support element and control center, sector command posts, and mobile reserve. These elements report to the ground defense force commander located in the BDOC (see to Fig 7-1). The BDOC maintains contact

Figure 7-1: Rear Area Operations Defense Diagram - Security Forces in **Bold**



### **TERMS**

**RAOC** - Rear Area Operations Center (can control several BCOCs)

**BCOC** - Base Cluster Operations Center (can control several BDOCs)

**RF/TCF** - Response Force/Tactical Combat Force

**AD/MW** - Air Defense/Missile Warning

**SRC** - Survival Recovery Center

**TACS** - Theater Air Control System

**BDOC** - Base Defense Operations Center (can control several Sector CPs)

**GDFC** - Ground Defense Force Commander (also Security Force Commander on USAF bases)

**FSCC** - Fire Support Coordination Center

**Mobile Reserve Forces** - BDOC response force

**Sector CP** - Sector Command Post

**OP/LP Patrols** - Listening/Observation Posts

**—** Within Base Boundary

**.....** Outside Base Boundary (When air bases are present many of the above are co-located)



with key rear area defense assets including the Survival Recovery Center (SRC), air missile defense, any rear tactical forces, and maritime offshore defense where applicable. Each base in the cluster then reports to the Base Cluster Operations Center (BCOC) which maintains the direct connection to the Rear Area Operations Center (RAOC) (see fig. 7-1).<sup>62</sup>

Under the command of the GDFC, Security Forces will immediately establish security upon arrival. Crucial tasks begin with vulnerability assessment, critical resource identification, as well as crew served weapons and field of fire emplacements. The first set of constraints appear

---

<sup>62</sup> Joint Chiefs of Staff. Joint Pub 3-10.1. *Joint Tactics, Techniques, and Procedures for Base Defense*. N.p., 23 July 1996: pp. II-2 - II-6.

almost immediately with the previously mentioned steps. Limits on perimeter operations, host nation support agreement, status of forces (SOFA) agreements, physical barrier or access problems and many others. Overcoming these restrictions can take a number of paths. Skilled negotiations, State Department assistance, however in coalition and host nation missions the establishment of professional relationships will allow what otherwise could not be formally accomplished.<sup>63</sup>

The next steps involve the physical preparation of entry controls, fighting positions, communication installation, and route plans. Other than the 820<sup>th</sup> SFG, no other Security Forces unit has organic communications and engineer assets. These reside within the control of the support group commander (SPTG). Work priorities may conflict at this point as the SPTG must perform many functions which drive combat sortie rate. The best choice in some cases may be to contract the capability if it exists.

Many operations will resemble a defensive build up of an infantry unit, however, access and entry control, particularly to a large base must be able to accommodate thousands of vehicles daily. The use of additional patrols and bomb dogs (MWD) are limited. Limitations will always strain MWD capability. Rotating bomb dog patrols is the best solution for sustaining that capability.

It is imperative for the GDFC to personally assess the plan and preparations. The next imperative is the establishment of a training plan. From basic personal protective gear wear to threat warning level responses. Knowledge of primary and alternate routes and counterattack

---

<sup>63</sup> Downing, Wayne A., General, USA (retired). *Force Protection Assessment of the USCENTCOM AOR and Khobar Towers, Report of the Downing Assessment Task Force*. Washington DC: Department of Defense,

support plans must be rehearsed daily in all conditions, times, and weather. The training will ensure maximum capability for recovery options. While the SRC is responsible for coordinating the recovery, it is incumbent on the Security Force to re-establish security so that all recovery elements can respond and work.

While Joint Doctrine for the rear area is established, it is the combination of efforts by security forces that enable other functions to perform at their potential level. The rear operation is not without risk. The risk must be minimized; however, it cannot become the primary mission.

## ***CONCLUSION***

Security Forces are the primary ground defense capability for the Air Force. Attacks on air bases have continued since the inception of air power, as the airplane continues to be a desirable soft target; it can affect strategic balance through strategic capability and can do so in minutes and seconds. Security Forces operational objectives should be based on the tenet: any threat that degrades sortie rate should be considered successful. Strategies should be employed which overcome those threats through development of operational concepts aimed towards the Joint Vision. The Joint Vision concepts: precision engagement, dominant maneuver, focused logistics, full dimensional protection, and information superiority must be integrated into the full range of Security Force operations. Advancing the Security Forces operational concepts in doctrinal development will support force protection goals in JV 2020. They are concepts that will enable the Air Force to retain operational access and to continue domination via air superiority.

---

30 Aug 1996: Finding 13 although classified addresses the criticality of host nation support as well as

## ***BIBLIOGRAPHY***

Alexander, John B. Col, USA (retired). *Future War: Non-lethal Weapons in Twenty-First-Century Warfare*. New York: St. Martin's Press, 1999.

Bowden, Mark. *Black Hawk Down*. New York: Atlantic Monthly Press, 1999.

Blackman, Robert R. Maj, USMC. *Ground Air Defense in the Marine Air-Ground Task Force Since 1945 Seminar*. Quantico, VA: Marine Corps University, April 1985.

Chambers, James J., Maj, USAF. *Force Protection for the 21<sup>st</sup> Century Expeditionary*

---

coordination to enhance force protection capabilities.

- Aerospace Forces: Security Forces Need for Organic Ground Intelligence.*  
Maxwell AFB, AL: Air University Press, May 1999.
- Cheatham, Ernest., Lt Gen, USMC (retired) and George R. Christmas, Lt Gen, USMC (retired). “*Leadership in Tactical Scenarios - The Battle of Hue City,*” lecture presented at the USMC Command and Staff College, Quantico, VA, 6 Nov 2000.
- Clausewitz, Carl Von. *On War*. Princeton, NJ: Princeton University Press, 1976.
- Department of the Air Force. AFI 31-301. Air Base Ground Defense Tactical Doctrine. Washington DC: GPO, 1999.
- Department of the Army. FM 100-5. Operations. Washington DC: GPO, 14 June 1993.
- Downing, Wayne A., General, USA (retired). *Force Protection Assessment of the USCENTCOM AOR and Khobar Towers, Report of the Downing Assessment Task Force*. Washington DC: Department of Defense, 30 Aug 1996.
- Fox, Roger P. *Air Base Defense in the Republic of Vietnam 1961 - 1973*. Washington DC: Office of Air Force History, 1979.
- Institute for National Strategic Studies. *Strategic Assessment 1999*. National Defense University. N.p., June 1999.
- Jalali, Ali A. “Afghanistan: The Anatomy of an Ongoing Conflict.” *Parameters: U.S. Army War College Quarterly*, vol. XXXI, no.1 (Spring 2001): 85-98.
- Joint Chiefs of Staff. *Air Force Vision 2020*. Washington DC: GPO, June 2000.
- Joint Chiefs of Staff. *Joint Vision 2010*. Washington DC: GPO, June 1996.
- Joint Chiefs of Staff. *Joint Vision 2020*. Washington DC: GPO, June 2000.
- Joint Chiefs of Staff. Joint Pub 3-10.1. *Joint Tactics, Techniques, and Procedures for Base Defense*. N.p., 23 July 1996.
- Goulding, Vincent J. Jr. “Back to the Future with Asymmetric Warfare.” *Parameters: U.S. Army War College Quarterly*, vol. XXX, no. 4 (Winter 2000-01): 21-30.
- Lewer, Nick and Steven Scholfield. *Non-Lethal Weapons: A Fatal Attraction?* London and New Jersey: Zed Books, 1997.

- Hasskamp, Charles W., Lt Col, USAF. *Operations Other Than War: Who Says Warriors Don't Do Windows?* Maxwell AFB, AL: Air University Press, May 1998.
- Koehrsen, Bernal F. Jr. Lt Col, USAF. *United States Air Force Emergency Service Teams.* Maxwell AFB, AL: Air University Press, December 1986.
- Kreis, John F. *Air Warfare and Air Base Defense.* Washington DC: Office of Air Force History, 1988.
- Lafrenz, James L., USAF. *Doctrine (Maybe), Strategy (No): Will the Air Force Implement a Force Protection Program?* Maxwell AFB, AL: Air University Press, May 1999.
- Lessor, Ian O. and others. *Countering the New Terrorism.* MR-989-AF Santa Monica, CA: The Rand Corp., 1999.
- Nystrom, Charles W. Jr., Maj, USAF. *Air Base Attack: The Promises of Emerging Technology.* Maxwell AFB, AL: Air University Press, April 1991.
- Perry, Dr. James D. "Operation Allied Force: The View from Beijing." *Aerospace Power Chronicles* no. 3 (Summer 2000): 79-89.
- Schlapak, David A. and Alan Vick. *Check Six Begins on the Ground: Responding to the Evolving Ground Threat to U.S. Air Force Bases.* MR-606-AF. Santa Monica, CA: The Rand Corp., 1995.
- Strange, Joe Dr. *Perspectives on Warfighting.* No.4, 2<sup>nd</sup> edition. Quantico, VA: Marine Corps University Foundation, 1996.
- U.S. Air Force Doctrine Center. Air Force Doctrine Document 2-4.1. *Force Protection.* N.p., 29 October 1999.
- U.S. Marine Corps. Marine Corps Combat Development Command MCWP 5-1. *Marine Corps Planning Process.* N.p., 5 January, 2000.
- U.S. Marine Corps. Marine Corps Combat Development Command FMFRP 12-18. *Mao Tse-tung on Guerilla Warfare.* N.p., 5 April, 1989.
- Vick, Alan. *Snakes in the Eagle's Nest: A History of Ground Attacks on Air Bases.* MR-553-AF. Santa Monica, CA: The Rand Corp., 1995.
- Young, Richard A. *Combat Police: U.S. Army Military Police in Vietnam.* Farmingdale,

NJ: Sendraak's Writings, 1994.

Yousaf, Mohammed, and Mark Adkin. *The Bear Trap: Afghanistan's Untold Story*.  
Lahore, Pakistan: Jang Publishers, 1992.